



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/883,190	06/19/2001	Sunil K. Jain	219.39488X00	9925

7590 12/24/2003
KENYON & KENYON
1500 K Street, N.W.
Suite 700
Washington, DC 20005-1257

EXAMINER

TRIMMINGS, JOHN P

ART UNIT	PAPER NUMBER
----------	--------------

2133

DATE MAILED: 12/24/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/883,190

Applicant(s)

JAIN ET AL.

Examiner

John P Trimmings

Art Unit

2133

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 October 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-42 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-42 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

1. This office action is in response to applicant's amendment, filed on October 27, 2003.
2. Claims 1-41 remain pending.
Claim 42 is subject to examination.
3. The prior art rejection of record to Claims 1-41 is maintained in response to applicant's amendment of October 27, 2003.

Response to Arguments

4. Applicant's corrections to the specification and drawings are noted.
5. Applicants' arguments of October 27, 2003 have been fully considered but they are not persuasive.

Response Re: 35 USC § 112

6. In response to Claims 8-13, and 24-27, the applicant argues that according to MPEP § 2106(V), the specification holds weight in determining the meaning or function of the claims ("it is the specification that has to satisfy the written description and enablement requirements of § 112"). The examiner agrees. The claims to an invention should show enablement in light of the specification; "In this regard, the definiteness of the language must be analyzed, not in a vacuum, but always in light of the teachings of the disclosure as it would be interpreted by one of ordinary skill in the art. Applicant's

claims, interpreted in light of the disclosure, must reasonably apprise a person of ordinary skill in the art of the invention." See MPEP §2106(V)

The applicant on page 3 of the specification, paragraph 7, has shown "The response of the device is monitored on a differential monitoring device to obtain analog data". The specification goes on to further limit the device on page 7 paragraph 21. The entire preferred embodiment in this section of the specification depends heavily on the differential oscilloscope, and solely on it, as interpreted by the examiner, for "duty cycle, crossover or noise levels, jitter, eye diagram, rise time and fall time". In fact, according to the applicant's specification, and in the same referenced paragraph, the tester interface consists of an analog (Differential Oscilloscope) interface, and digital (Tester Drive and Tester Receiver) interface, and no other DUT interface. In other words, the only analog interface in the invention is the differential oscilloscope. Therefore, without the oscilloscope, the analog portion of the applicant's Claims would be inoperative.

While the applicant has built on the dependency of the oscilloscope in the specification, the claims have not. In fact, there is no dependent claim anywhere in the invention using the assets of this device. In regards to the requirements of § 112 first paragraph, the examiner does not see a clear and fully enabling group of claims as referenced herein due to the missing enabling hardware.

7. In response to Claim 41 as amended by the applicant, the Claim is rejected under 35 U.S.C. 103(a) as being unpatentable over Sauer et al., U.S. Patent No. 5951704, in view of G. Cauffet et al., Digital Oscilloscope Measurements in High Frequency Power Electronics, IEEE, reference 0-7803-0640-6/92, pages 445 - 447.

Whereas Sauer et al. teaches the emulator using standard tester measurement hardware, Cauffet et al. explicitly discloses "associating a digital oscilloscope for acquisition, to a work station for control, corrections, mathematical processing, and presentation" (page 445, paragraph 3), in measurements of high frequency power electronics. One having ordinary skill in the art at the time the invention was made would have deduced that oscilloscopes when attached to a work station would provide many complex measurements other than the standard measurements afforded by the tester itself. Since the Claims 41 refers to "virtual oscilloscopes", and Cauffet et al. refers to the real world, it would be obvious to use a "virtual oscilloscope" attached to a virtual system as described in Claim 41.

Response Re: 35 USC § 102

8. In response to Claims 1-4, 14-17, and 18-21, the applicant argues that Gohringer does not teach the claimed features of the applicant, specifically, Gohringer does not suggest that the analog data and digital data are obtained by monitoring the response of the device on two separate devices (differential device and tester receiver), nor processes the analog signal, as claimed in Claims 1 and 18. The examiner points to Gohringer column 12 lines 5-67, and Figure 3C, wherein the operation of the tester is explained. As in any tester such as Gohringer's and the applicant's, a tester requires an interface in order to translate the analog signals from the DUT into digital data, which the tester processes within the computer section of the tester. Gohringer accomplishes this with Tester Interface 3320 by applying the digitized analog data to the tester via

Art Unit: 2133

Digital Out 3335, and the applicant accomplishes this by applying digitized analog data to the Processor with the Oscilloscope data out 44. In each case, the processing within the computer sections of each is performed digitally. Therefore, Gohringer monitors analog data through the Tester Interface 3335, and digital data directly via the tester interface 3365 – two separate devices. It should also be noted that Gohringer teaches that the representation of two devices in Figure 3C 3330 and 3340 may in fact be one device, and that testing therefore of both digital and analog may occur simultaneously (column 12 lines 48-67). Also, In Gohringer (same references as in the former above), the analog data begins being processed in the Tester Interface 3320 by being converted into digital data, and then ultimately in the tester processor when the digital data is analyzed. It is the examiner's belief that Gohringer sufficiently teaches all aspects of the applicant's configuration.

9. As per new Claim 42 added with the subject amendment, the examiner, in answering Claim 1 above, wherein Gohringer monitors analog data through the Tester Interface 3335, and digital data directly via the tester interface 3365 – two separate devices, and wherein Gohringer teaches that the representation of two devices in Figure 3C 3330 and 3340 may in fact be one device, and that testing therefore of both digital and analog may occur simultaneously (column 12 lines 48-67), rejects Claim 42 as being anticipated by Gohringer.

Response Re: 35 USC § 103

10. In response to Claims 28-31, 33, 34, 36, and 37-40, the applicant argues that Sauer with Gohringer fails to render Claims 5, 6, 22, and 23 obvious based on the same premise as the 35 USC 102 arguments above. For the same reasons as the examiner has presented above, these claims remain rejected.

The applicant argues that Grochowski with Sauer fails to teach test emulation of analog and digital signals as they are. But Grochowski (page 628) teaches an exemplary method to represent analog data in a computer in a digital form. Grochowski (pp 613, 618, 624 and 625) exemplifies many other various ways that data may be analyzed from a mixed-signal analog/digital device. And Grochowski in page 630 column 2 defines the requirement that all functions needed to test digital and analog signals are being merged into one tester platform. It is the examiner's belief that Grochowski and Sauer together render Claims 28, 33, and 37 obvious, and accordingly, dependent Claims 29-31, 34, 36, and 38-40 also.

The applicant argues that Caufet in combination with Gohringer fails to render claims 7, 32, and 35 as being obvious. The examiner, in the rebuttal of Claim 1 above, has already responded that Gohringer discloses testing analog and digital devices using separate interfaces simultaneously, and so the applicant's argument to the contrary is rejected.

The applicant argues that Claims 5-7, 22-23 and 28-40 should also be rendered based upon the arguments of all the above by the applicant, and for no other reason. Therefore, the examiner, in rebutting the arguments above, also rebuts the subject

claims 5-7, 22-23, and 28-40, and thus they are rejected being based upon the above rebuttals.

Remarks

It is therefore reiterated here that all claims 1-41 as rejected in the examiner's previous office action paper #1, and added claim 42 of the applicant in the aforementioned amendment, are maintained as being rejected.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John P Trimmings whose telephone number is 703-305-0714. The examiner can normally be reached on weekdays, 7:30 AM to 4:00 PM.

Art Unit: 2133

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Albert DeCady can be reached on 703-305-9595. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-2394.

John P Trimmings
Examiner
Art Unit 2133



jpt


ALBERT DECADY
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100